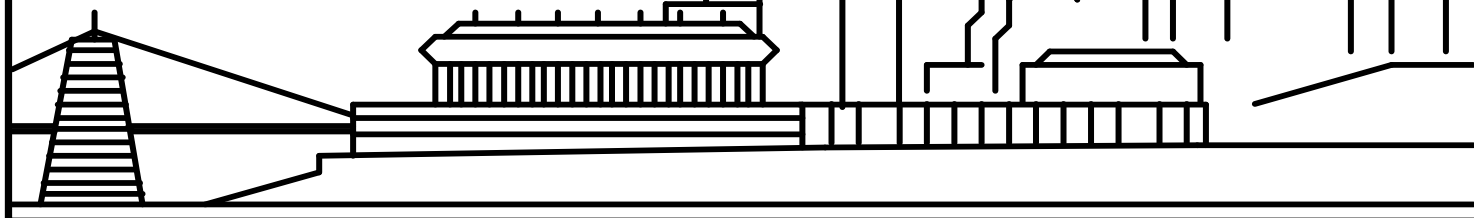




INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.



FEBRUARY 1997

IEEE CINCINNATI SECTION NEWSLETTER

The
ENGINEERS AND SCIENTISTS SERVING GREATER CINCINNATI (ESC)

invites you to attend the 62ND ANNUAL MEETING

*A celebration of ENGINEERS WEEK
to be held on Thursday February 20, 1997 at*

**Memorial Hall
1225 Elm Street
Downtown Cincinnati**

Annual Recognition and Awards

PROGRAM

6:00 P.M. Social Hour
7:00 P.M. Dinner: Cost \$30.00 - Reservation/check received by 2/18/97
Cost \$35.00 - paid evening of event
8:00 P.M. Presentation of Awards

DISTINGUISHED ENGINEER - Mr. Thomas A. Stitt
YOUNG ENGINEER - Mr. Mark S. Reineck
DISTINGUISHED SCIENTIST - Dr. Richard C. Elder
COMMUNITY SERVICE/INDUSTRY - Mr. Phillip D. Spiess
PROFESSIONAL ACCOMPLISHMENT/ACADEMIC - Dr. John R. Hageman
PROFESSIONAL ACCOMPLISHMENT/CONSULTING - Mr. Peter W. Soltys

8:30 P.M. Speaker: Colonel David H. Hackworth, America's Most Decorated Living Soldier

Please call Dee Scott at 385-9446 for more information and reservations.

All checks to be mailed to: Engineers and Scientists of Cincinnati
c/o Dee Scott
P.O. Box 53308
Cincinnati Ohio 45253
Background on Col. David H. Hackworth

As a contributing editor for Newsweek, Army Colonel (retired) David H. Hackworth has reported on waste in the Pentagon, the crisis in Haiti, the war in Bosnia, and American intervention in Somalia. He also writes a weekly column, "*Defending America*", syndicated internationally by King Features.

In "*Making the Same Dumb Mistakes*" (October 18, 1993, Newsweek), Colonel Hackworth warned that Yugoslavia's fierce fighters could easily suck the United States into a ground war -- "hook, line and body bag." This essay helped earn Newsweek a 1993 honorable mention for overseas reporting from the Overseas Press Club.

Colonel Hackworth was also a special correspondent for Newsweek during the operation Desert Storm, writing weekly experiences covering the Allied troops in Saudi Arabia, and assessing U.S. military strategy. His coverage drew critical praise and resulted in appearances on ABC's "Nightline," CNN's "Larry King Live," "Entertainment Tonight," and radio and TV shows around the world. Among those praising his work: The Los Angeles Times ("Newsweek comes out on top with its war coverage (with) military analysis by a bona fide war hero"), The Chicago Tribune ("His views may offer needed, if opinionated, cautions"), New York Magazine ("Newsweek's real edge came from its guest columnist, in particular David Hackworth") and USA Today ("add Hackworth to the list of budding media stars in the gulf...").

Hackworth retired from the U.S. Army in 1971 after a 25-year career including service in Korea and Vietnam. He is America's most decorated living soldier with over 100 medals, 78 of which, including eight purple hearts, were combat-related. Hackworth's memoir is an international best-seller: *About Face: The Odyssey of An American Warrior*. His most recent best seller is *Hazardous Duty*.

After five tours of duty in Vietnam, Hackworth handed in his papers and left for Australia, "the farthest place I could find from the United States and still speak English." He feels he narrowly escaped court-martial and possibly even assassination after going public with his assessment of America's strategic and tactical failures in Vietnam. He returned to the U.S. in 1989 and now spends his time writing and lecturing. He has been called the "Ralph Nader of the military."

Colonel Hackworth brings to our audience his unique experience and observations in 51 years of bounding around hot and cold battlefields, as well as an insider's view of the Pentagon. Space is limited, so please reserve your spot for listening to this exciting American hero, and honoring our fellow colleagues.

CHAIRMAN'S MESSAGE - FEBRUARY 1997

by Randy Holt, Chairman

Congratulations to Mark Reineck on his upcoming award from Engineers and Scientists of Cincinnati (ESC) as Young Engineer of the Year! It is a great honor to our section to have another award recipient, and Mark is certainly deserving. Some of you may have seen the recent article in the newspaper about him and his business. The annual ESC Award Dinner will be held in Memorial Hall, so come out and recognize one of our members. Details on making reservations are given in this newsletter.

Our January meeting was held at the University of Cincinnati where we toured the Computer Graphics Center in the College of Design, Architecture, Art, and Planning (DAAP). Mr. Manuel Susarret, Director of the Center, led the tour that included the new "snake-down-the-hill" facility that has received numerous architectural awards. There don't appear to be many regular corners in that building, but it is roomy, colorful, airy, and functional. Without Mr. Susarret's guidance, however, I suspect some of us would still be wandering around in there today! The computer center was very impressive, and U.C. students are receiving national recognition for much of their animation and virtual reality work. Mr. Susarret has done a terrific job of constructing a very powerful assortment of computers and peripherals, due largely to the fact that he was a salesman for IBM and

Apple for over 28 years and knows how to obtain equipment and funds. He was also a very entertaining and knowledgeable tour guide, spending a great deal of time with out group in spite of his responsibilities at U.C. Thank you, Mr. Susarret!

The Executive Committee met for the first time this year on January 16, and I think you will be very pleased with what we have in store for 1997! Meetings are taking shape, including a representative from Sun Microsystems in March to talk about the Java language, Java chips, and Java terminals. Digital cameras will be the topic for April, and Bill Lohner has arranged for a Kodak engineer to be here. We're trying to arrange a technical meeting on biomedical equipment in May, and our annual golf outing will be held in June. As usual, we'll take two months off for "summer vacation" and then resume our technical meetings in September.

The Executive Committee also felt that it was time to treat our members to dinner while also encouraging EE and EET students to attend our meetings! Prior to the presentation in April, we'll supply pizza, salad, and soft drinks to those who attend. Of course, we'll expect you to make reservations so we can get the right amount of pizza.

How are we doing? Are we neglecting any technical areas? Do you have any suggestions on how the Cincinnati Section can serve you better? Please contact me by phone (572-5710 <office> or 232-5874 <home>) or drop me some e-mail at holthr@nku.edu.

I'm looking forward to seeing you at our meetings!

CONGRATULATIONS!!!!!!

The Executive Committee, on behalf on the Section, would like to congratulate IEEE member, Mark Reineck, past Secretary of the Section, on his being awarded the Engineers and Scientist of Cincinnati's YOUNG ENGINEER AWARD at this year's Awards Banquet.

A MESSAGE FROM YOUR PACE CHAIRMAN **by Bill Lohner, PACE Chairman**

" A Network of Professional Activities for Engineers "

This month I am happy to announce the IEEE candidate for one of the Engineering Society of Cincinnati Annual Awards was successful. Mr. Mark Reineck, our IEEE Secretary was selected by ESC as " Young Engineer of the Year ".

The award will be presented to Mark at the ESC Awards Banquet, Thursday, February 20, 1997 at Cincinnati Memorial Hall. To show your support for Mark, please plan to attend. Contact Dee Scott at 385-9446 for tickets, mention IEEE.

To promote the engineering and technical professions during " Engineer's Week", I have obtained a list of Hamilton County high schools and with the cooperation of the Hamilton County Educational Service Center IEEE will distribute " Engineering and You" pamphlets to the science departments of the high schools.

The Cincinnati Section IEEE would like to do more to promote technical education in the high schools. One of our goals is to recruit 6 to 8 active or retired engineers to talk to high school technical and science students

about engineering and scientific professions. I did this last year at Connersville High School and found it very beneficial. Students are interested in having professional people talk about their experiences and what they do.

Call me at 385-7268 if you are interested. This would be a service that retired engineers could do. Let's set up a group to do this.

William J. Lohner
Pace Chairman
Cincinnati Section IEEE
(513) 385-7268

BACKGROUND ON MARK S. REINECK - THE ENGINEERS & SCIENTISTS OF CINCINNATI'S 1997 YOUNG ENGINEER

Mark Reineck is President of Automation Software Consultants, Inc. He founded the company in 1989 in order to continue his development of PC CAD networking tools and to provide software and services to support industrial automation.

His technical accomplishments include developing and marketing PC CAD drawing management and plot spooling utilities, design and development of object oriented cell control software, development of a C function cell library which provided easy implementation of basic functionality such as peer-to-peer messages, retrofitting an inventory and distribution system at a UPS spare parts depot, developing and implementing an Oracle based inventory, batching and verification system for a Proctor & Gamble cosmetics subsidiary, and the development of a van quotation system.

Mr. Reineck has earned an ASEET and a BSEET from the University of Cincinnati.

Mr. Reineck holds membership in many Societies, Associations and Institutes. Among them are the Institute of Electrical and Electronics Engineers, Society of Manufacturing Engineers, International Association of Christian Businessmen and the Independent Computer Consultants Association.

He has been very active in his church as a Board Member and with music groups; his family has sponsored a Bolivian girl through the Christian Children's Fund. He has given much volunteer time to civic and humanitarian organizations such as Goodwill Industries and Cancer Family Care. Mr. Reineck was nominated by the Cincinnati Section of the Institute of Electrical and Electronics Engineers.

IBM - FROM ELECTRONIC CALCULATORS TO IBM701, THE DEFENSE COMPUTER **by Dick Reiman, Historian**

IBM had entered the electronic calculator-computer field with production of Howard Aiken's Mark 1, and Wallace Eckert's SSEC, and the next step was to electronic keypuncher, in 1942, to replace the electromechanical keypuncher, and later in the year developed an electronic multiplier, which working with prepunched cards, could multiply numbers at the modest rate of 100 cards per minute. Neither machine was much of a technological advance, but it got IBM into electronics. Tom Watson Jr. had appreciation or radar from his experience as a B-29 pilot (it had 1000 tubes), and of the potential of electronic technology. Watson Sr., however, thought that IBM's customers would shy away from electronics, but he let his son go ahead. As a result, 100 electronic calculators were manufactured in 1946, and the IBM 603 was put on the market for a rental rate of \$550 per month. To everyone's surprise, the entire lot was snapped up. This was followed by the more sophisticated and useful IBM 604, a multiplier with a plug board for execution of simple instructions, again a most successful product which wet customers appetite for computers from the trusted IBM.

In 1948, Northrup Aircraft Co. had requested a calculator programmed by punch cards, and IBM lashed a 603 electronic multiplier to a electromechanical tabulator. and this became a popular product. Meanwhile, the Social Security Administration which was drowning in punch cards encouraged IBM to build a magnetic-tape processor (actually a giant memory) which could store the equivalent of 15,000 punch cards. In June 1950, the Korean War broke out, and IBM sent James Birkenstock, and Dr. Cuthbert C. Hurd, to visit the country defense contractors, research institutes, and military branches. Included in the visits were the Atomic Energy Commission, Boeing Corp., and General Electric. The two scientists concluded that while all of those visited had different requirements, they didn't varied not that much, and that one scientific computer could answer 90 % of the problems. Tom was asked, "why not build a production lot with IBM's own money?". The three million dollar gamble triggered fierce internal debate between those wedded to punch cards and the new technology. "No one would rent a computer for \$8,000 per month" the critics charged, so Tom sent Hurd seeking firm commitments, and he returned with thirty letters of intent. By March 1951, the detailed design was completed but the cost had risen to \$15,000 per month! Yet almost half of the customers stuck with their commitment! Within 2 years, IBM hired 500 Electrical Engineers to work on the "Defense Calculator", and in March 1953, the IBM 701 as the calculator was renamed, was delivered to Los Alamos. It was a binary computer in the von Neumann style, with 4000 tubes, read/write electrostatic memory of 4096 words of 36 bits each, and the ability to multiply two words in 456 microseconds. It was full of innovations including the ability to fit in a standard elevator through an ordinary door. All told, IBM produced 19 701's, 8 for aircraft companies, 4 for government agencies, 3 for universities and large corporations such as GM and GE and one for itself. A data-processing company since 1890, IBM was finally in the computer business.

IEEE NEWS

IEEE TO NETWORK THE WORLD WITH NEW SLOGAN

PISCATAWAY, N.J., 15 Jan -- The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is introducing a slogan to help provide a stronger identity for the Institute among its members and customers. "IEEE : Networking the World (SM) " will soon begin appearing on many communications from the Institute. The slogan was approved by the IEEE Board of Directors in December.

The new slogan underscores the ability of the Institute's members to share technical and professional information by virtue of their bond as colleagues in the world's largest technical professional society. This bond includes activities such as developing standards, taking advantage of opportunities for career enhancement, and building professional and personal relationships with others in their chosen field.

"'Networking the World' captures the essence of the IEEE," said 1997 President Charles Alexander. "With more than 300,000 members in 150 countries, the Institute has become a vast global network of people, conferences and technical meetings, print and electronic publications, standards, and many other activities that enable members to work even more effectively in an increasingly borderless engineering community.

"Through this network," he continued, "engineers worldwide can easily exchange technical information, develop professional interests and expand skills to help ensure themselves a long and vital engineering career."

The IEEE Corporate Communications and Creative Services departments will soon release guidelines on the proper use of the new slogan for presentations, publications, Internet pages, letterhead and other materials. The guidelines will be distributed to key entities and volunteers, as well as to staff. The use of "IEEE: Networking The World" will be encouraged wherever appropriate and as quickly as economically feasible within the corporate IEEE infrastructure. Plans call for its inclusion on the IEEE Web site, in IEEE Spectrum, The Institute, Staff Circuit and other publications, on corporate letterhead and envelopes as well as the postage indicia, among other places.

For additional information contact Terry Burns, IEEE Marketing, 908-562-5520 and Helen Horwitz, IEEE Corporate Communications, 908-562-6821.

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Ron Harbaugh - Member-At-Large	352-6202
Eric Wright - Member-At-Large	881-3329
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